



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,620	01/26/2007	Peter James Harbour	HARB3001/REF	3713
23364 7590 06/23/2009 BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314-1176				
EXAMINER				
HAILEY, PATRICIA L				
ART UNIT		PAPER NUMBER		
1793				
MAIL DATE		DELIVERY MODE		
06/23/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/578,620

Applicant(s)

HARBOR ET AL.

Examiner

PATRICIA L. HAILEY

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-17 and 19-26 is/are rejected.
7) ☒ Claim(s) 18 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-892)
Paper No(s)/Mail Date 5/8/06, 7/23/07, 11/9/07, 3/7/08
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

Applicants' Preliminary Amendment, filed on May 8, 2006, has been made of record and entered. The claims have been amended to correct grammatical errors and to eliminate multiple claim dependency. No claims have been canceled or added; claims 1-26 remain pending in this application.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Applicants' Priority Document was filed on May 8, 2006.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. ***Claims 1-4, 24, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Wieserman et al. (U. S. Patent No. 4,994,429).***

Wieserman et al. teach an active material comprising a metal oxide/hydroxide particle having chemically bonded to reactive sites on the surface thereof a substantially monomolecular layer of organic acid molecules, each organic molecule comprising an unreacted acid group and a phosphorus-containing acid group chemically bonded to a reactive site on the metal oxide/hydroxide particle (col.2, lines 28-34; **claims 1 and 2**).

Regarding **claims 3 and 4**, Wieserman et al. teach that the metal oxide/hydroxide particle exhibits surface areas in the range of 0.1 to 600 m²/g and up to 1000 m²/g; see col. 6, lines 31-34 of Wieserman et al.

The active material is suitable for uses such as selective absorbing of toxic liquids or gases without absorbing water ("removing toxic components from an environment", **claim 24**; "catalysing a chemical reaction", **claim 25**); see col. 3, line 67 to col. 4, line 27 of Wieserman et al.

In view of these teachings, Wieserman et al. anticipate claims 1-4, 25, and 25.

4. Claims 5-10, 13, 14, 17, and 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Immel et al. (U. S. Patent No. 5,552,362).

Immel et al. teach the formation of metal oxide/hydroxides, wherein salt solutions of said metals are co-precipitated onto an inorganic support using compounds such as an alkali metal hydroxide or ammonia, optionally followed by washing of the soluble components with water, followed by a drying phase and a complete heating phase, during which the compounds applied are converted into oxides/hydroxides which adhere to the inorganic support (**claims 5-10, 13, 14, and 19**). See col. 3, line 51 to col. 4, line 9 of Immel et al.

Regarding **claim 17**, Immel et al. teach the employment of salts such as acetates, chlorides, nitrates, and sulfates; see col. 4, lines 2 and 3.

Regarding **claims 20 and 21**, the alkali metal hydroxide ("strong inorganic base") can be sodium hydroxide. See Example 1 of Immel et al.

In view of these teachings, Immel et al. anticipate claims 5-10, 13, 14, 17, and 19-21.

5. Claims 5, 11, 17, 20, 21, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Bovarnick et al. (U. S. Patent No. 3,305,349).

Bovarnick et al. teach the formation of composite materials, in which a solution of two or more metal salts are formed and simultaneously heated to dehydrate and decompose the salts to oxides. The product of the simultaneous dehydrating and decomposing may be partially or completely reduced (**claims 5, 11, and 23**). See col. 3, lines 11-33 of Bovarnick et al.

Regarding **claims 17, 20, and 21**, Bovarnick et al. teach that solutions of metal nitrates, sulfates, or chlorides are formed, and that solutions in strong bases such as ammonium hydroxides may also be employed. See col. 4, lines 63-74 of Bovarnick et al.

In view of these teachings, Bovarnick et al. anticipate claims 5, 11, 17, 20, 21, and 23.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 11, 12, 15, 16, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Immel et al.* (U. S. Patent No. 5,552,362).

Immel et al. is relied upon for its teachings regarding claims 5-10, 13, 14, 17, and 19-21.

Regarding **claims 11 and 12**, Immel et al. teach a drying step of from 80° to 130°C; see col. 3, lines 59-61. This temperature range encompasses Applicants' claimed range of "100°C to 110°C".

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness. In re Malagari, 182 U.S.P.Q. 549.

Regarding **claims 15 and 16**, it would be obvious to the skilled artisan that the metal oxide/hydroxides of Immel et al. would exhibit mesoporous areas comparable to that instantly claimed, absent the showing of convincing evidence to the contrary, given that Immel et al. teach a process reading upon that recited in claims 5 and 8 (from which claims 15 and 16 respectively depend).

Regarding **claim 22**, it would have been obvious to the skilled artisan to employ an amount of base (sodium hydroxide) such as that disclosed in Immel et al. (e.g., Example 1) to obtain a pH suitable for precipitation, such as that instantly claimed.

10. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wieserman et al. (U. S. Patent No. 4,994,429).

Wieserman et al. is relied upon for its teachings with respect to claim 1. Although this reference does not explicitly disclose the employment of Patentees' active material in the manufacturing of a supercapacitor, Wieserman et al. does teach that the active material can be used for improving bonding between electrical insulation and a metal conductor (col. 4, lines 19-21). Thus, the skilled artisan would have been motivated by the teachings of Wieserman et al. to incorporate an active material such as that taught

by Wieserman et al. in a supercapacitor to improve bonding between layers of the supercapacitor.

Allowable Subject Matter

11. Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:

None of the cited references of record teach or suggest the limitations of claim 18 regarding the treatment of the metal salt with an oxidizing agent.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICIA L. HAILEY whose telephone number is (571)272-1369. The examiner can normally be reached on Mondays-Fridays, from 7:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PATRICIA L. HAILEY/
Primary Examiner, Art Unit 1793
June 19, 2009